UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,803	02/12/2002	Song Ci	3COM-3742.BCG.US.P	7142

7590	07/25/2005

WAGNER, MURABITO & HAO LLP
Third Floor
Two North Market Street
San Jose, CA 95113

EXAMINER
AVELLINO, JOSEPH E

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/074,803	CI ET AL.
	Examiner	Art Unit	
	Joseph E. Avellino	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 June 2005</u>.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-20</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-20</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are pending in this examination; claims 1, 8, and 15, independent.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

        Claim 1, 3-7, 15, 17, and 18-20 rejected under 35 U.S.C. 103(a) as being

unpatentable over Webster (USPN 5,307,351) in view of Dziong (USPN 6,625,155).

3.   Referring to claim 1, Webster discloses in a computer network (Figure 1), a

method for predicting an optimum transmission frame length, comprising:

        assessing transmission channel quality in said computer network (i.e.

determining number of retries required to transmit data) (col. 4, lines 8-31);

        calculating an optimum length for said transmission frame (Figure 4, ref. 126);

        adjusting the length of said transmission frame (Figure 4, ref. 126-132; col. 8,

lines 22-38);

        transmitting said transmission frame of said adjusted length (Figure 4, ref. 124;

col. 8, lines 22-38); and

        assessing the quality of said transmission of said transmission frame (i.e.

process repeats every time a frame is sent (Figure 4, ref. 100).

4.   Webster does not specifically disclose said transmission channel quality is

assessed recursively using a Kalman filter. Dziong discloses assessing transmission

channel quality (i.e. connection control) recursively (the Office takes the term

"recursively" as "repeating using values based on previous iterations") using a Kalman

filter (i.e. the calculated measured mean and variance from samples in the interval are

used as inputs to the Kalman filter, and as such the outputs optimal estimate of mean

and variance are used for tuning the CAC algorithm which generates the calculated

measured mean and variance since this calculation is based directly upon the sampled

cell counts in the previous interval) (col. 7, line 45 to col. 8, line 6). It would be obvious

to a person of ordinary skill in the art at the time the invention was made to combine the

teaching of Dziong with Webster, since the estimation algorithm of Webster would

benefit by the use of a Kalman filter in order to optimally estimate the mean and

variance values of the previously sent error frames (which include noise and error rates)

and furthermore provide statistics to determine more enhanced optimal frame length

size by removing error spikes from the calculation.

5.   Referring to claim 3, Webster discloses said assessing of said transmission

channel quality is achieved by measuring the bit error rate of said transmission channel

(i.e. approximate the degree of impairment) (col. 4, lines 8-12).

6.   Referring to claim 4, Webster discloses measuring said bit error rate of a

previous transmission (i.e. frames already sent) (col. 4, lines 15-25).

7.   Referring to claims 5 and 6, Webster discloses the calculating is accomplished in a computer which is a dedicated transmitting device (i.e. data communication elements or DCE's 10 and 12) (col. 3, lines 9-33).

8.   Referring to claim 7, Webster discloses the assessing the quality of transmission is accomplished by measuring the bit error rate of said transmission (i.e. last n frames tested) (Figure 4. ref. 108; col. 6, lines 33-48).

9.   Claims 15, 17, and 19-20 are rejected for similar reasons as stated above. Furthermore Webster discloses a header section (Figure 2, ref. 24, 28), a data field (Figure 2, ref. 30), and an error checking field (Figure 2, ref. 32), and that the optimum length for transmission is calculated by reference to transmission bit error rate (i.e. indirectly) (col. 4, lines 8-12), and to random processing noise (the frame will be rejected based on how "noisy" the line is) (col. 3, lines 60-63; col. 4, lines 15-20).

10.   Referring to claim 18, Webster discloses the invention substantively as described in claim 17. Webster does not specifically disclose the use of a Kalman filter to predict the optimum length of the frame. Dziong discloses using a Kalman filter to filter noise and error rate data in order to calculate actual system performance measures such as cell losses (e.g. abstract). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Dziong with Webster, since

the estimation algorithm of Webster would benefit by the use of a Kalman filter in order

to optimally estimate the mean and variance values of the previously sent error frames

(which include noise and error rates) and furthermore provide statistics to determine

more enhanced optimal frame length size by removing error spikes from the calculation.

Claims 2, 8-12, and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Webster in view of Dziong in view of Johnson et al. (USPN

6,463,074) (hereinafter Johnson).

11.   Referring to claim 2, Webster in view of Dziong discloses the invention

substantively as described in claim 1. Webster in view of Dziong does not disclose the

network is implemented as a wireless Ethernet. In analogous art, Johnson discloses

another computer network method for predicting an optimum transmission frame length,

which discloses the network is implemented as a wireless Ethernet (col. 5, lines 1-5). It

would be obvious to a person of ordinary skill in the art at the time the invention was

made to combine the teaching of Webster with Johnson since Webster discloses the

communication medium 18 can be any communication link over which data may travel

(col. 3, lines 20-25). This would lead one of ordinary skill in the art to search for other

communication mediums for networks, eventually finding Johnson and its novel frame

transmission method involving a wireless Ethernet.

12.   Claims 8-12, and 16 are rejected for similar reasons as stated above.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Webster in view of Dziong, and further in view of Johnson.

13.   Webster in view of Dziong disclose the invention substantively as described in claim 18. Webster in view of Dziong do not specifically disclose the use of a wireless Ethernet, however Johnson disclose using a wireless Ethernet (see rejection for claim 8). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Johnson with Webster and Dziong since Webster discloses the communication medium 18 can be any communication link over which data may travel (col. 3, lines 20-25). This would lead one of ordinary skill in the art to search for other communication mediums for networks, eventually finding Johnson and its novel frame transmission method involving a wireless Ethernet.

Response to Arguments

14.   Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

It is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to continue to

claim as broadly as possible their invention. It is also the Examiner's right to continue to

interpret the claim language as broadly as possible. It is the Examiner's position that

the detailed functionality (i.e. details regarding *how* the Kalman filter utilizes noise and

error rates to predict the optimum frame length) that allows for Applicant's invention to

overcome the prior art used in the rejection, fails to differentiate in detail how these

features are unique. As it is extremely well known in the networking art as already

shown by Webster and other prior arts of records disclosed, for predicting an optimum

frame length as well as other claimed features of Applicant's invention. Thus, it is clear

that Applicant must submit amendments to the claims in order to distinguish over the

prior art use in the rejection that discloses different features of Applicant's claim

invention. .

15.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

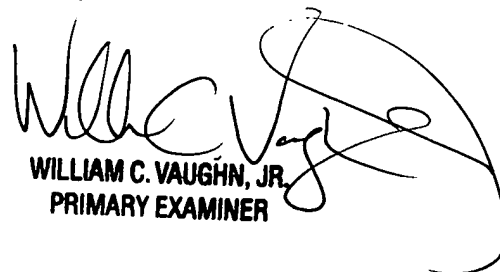extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEA
July 15, 2005

WILLIAM C. VAUGHN, JR.
PRIMARY EXAMINER